Chrysaborga Steam Furnace

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, March 25, 1848.

Baltimore and Ohio Railroad.--Increased Facilities for Travel.

No better indication of the increase of travel, on the great lines of railroad, need be desired than will be found in the increase of daily trains upon them. It will be seen by their advertisement in this days' paper that this company has decided upon running *two* daily trains, each way hereafter, instead of one as heretofore. This will be very acceptable to business men, who have been so often compelled to remain over a whole day when a little too late for the morning line. By this arrangement they may transact business during the day, take a comfortable night in the cars to Cumberland, and then cross the mountain by daylight in the stages.

NOTICE! GREAT CENTRAL ROUTE, via Cumberland and Baltimore.—To facilitate further the travel upon this route, the Baltimore and Ohio Railroad Company, in conjunction with the lines of stages upon the National road, will commence on Monday, the 27th of March, to run a SECOND DAILY TRAIN OF CARS and LINE OF COACHES over the route, leaving Baltimore at 4 P. M., and Cumberland at 7½ P. M., on every day of the week.

The coaches upon the National road will henceforth leave Wheeling regularly twice a day at 6 A. M. and 6 P. M., and Cumberland at the same hours, connecting regularly each way, with the morning and evening boats at Brownsville. By this arrangement, passengers arriving at Baltimore from Philadelphia at 2 P. M., may proceed westward, after a delay of but two hours, instead of lying over until next morning. Passengers coming eastward, and arriving at Wheeling, or Pittsburg, or Cumberland, too late either for the morning or evening line, will be detained but 12 hours at most, instead of 24, as heretofore. Great additional despatch will thus be given to the travel upon this route, already the most expeditions between the east and west, and the passenger may always make his choice of the day or night for passing over either the railroad or the turnpike section of the route.

By order, WILLIAM S. WOODSIDE,
2t13 *Master of Transportation, Baltimore and Ohio Railroad.*

Two daily trains are also to be run each way, after the 1st of April, on the Reading road, which will add greatly to the convenience of those engaged in the coal and other business in that region. These increased facilities were much needed on both these lines, and we are much mistaken if they do not add materially to the income of the companies.

Baltimore and Susquehanna Railroad.
Extension to Harrisburg.

Efforts are now being made to construct a railroad from York to Harrisburg, and thus connect the Baltimore and Susquehanna road with the Cumberland Valley road, and the Central road to Pittsburg. We consider this a very important link, as it will not only connect with the lines west, but it will also soon be connected with another road up the valley of the Susquehannah, into New York, and there connect with all the New York, east and west, roads. A connection very important to Baltimore, and especially to the Baltimore and Susquehannah railroad. We shall give, in our next, an able communication, or report, on this subject, by I. R. Trimble, Esq., to the directors of the Baltimore and Susquehannah railroad company. It shows, in a very forcible manner, the importance, to Baltimore, of this short and easily made road.

We shall also give, in connection with the above, the last annual report of the Baltimore and Susquehannah railroad.

Locomotive Shops.

The rapidly increasing railroads of the country give rise to new establishments for the manufacture of machinery.

Since our visit to Baltimore in June last, the Messrs. Denmead have erected extensive shops and foundry, on ——— street, near the Penitentiary, and are preparing for the manufacture of locomotives on quite a large scale.

We understand, also, that an extensive establishment is to be commenced immediately in Schenectady, between the railroad and canal—on the site of the old college, by the Messrs. Norris, of Philadelphia—where locomotives can be sent in any direction, either by water or by railroad. An other establishment still, is to be brought into use during the current year, at Cambridgeport, Mass., by Messrs. Davenport & Bridges, the celebrated car builders. Thus it seems that a large increase of capital is to be applied to the manufacture of locomotives and railroad machinery.

Speaking of locomotives, reminds us of the superior working of those in use on the Baltimore and Susquehannah railroad; especially those having the cylinders beneath the boiler. They were manufactured in the shops of the company, under the charge of Mr. Millholland.

Little Miami Railroad, Ohio.--Annual Report for 1847.

This report will be found in this number. It shows an improved condition of the work—a large increased income, and a certainty of a much larger increase the current year, in consequence of the completion and connection *with it*, of the Mad river road, by which there will be railroad communication between Cincinnati and Lake Erie at Sandusky. There will also soon be a railroad from Xenia to Columbus, by which the business of this road must be considerably increased.

This road is 84 miles long, from Cincinnati to Springfield, and was first opened for use a short distance from Cincinnati, in 1839, having been constructed on what was formerly deemed the cheap plan—that is with a light flat rail—it of course now needs to be rebuilt with a heavy rail, which, it will be seen, they are doing in the most substantial manner.

By referring to the report for 1846, in the Railroad Journal for January 9th, 1847, it will be seen that the—

Gross earnings were, for that year	$116,052
The *expenses*	64,766
Net earnings for 1846	51,286
For 1847 the gross earnings were	221,139
Gross expenses	112,265
Net earnings	108,874

Or more than double; and we feel quite safe in predicting that the net earnings will this year exceed *two hundred thousand* dollars.

It is to be regretted that the legislature did not at the session of 1847, allow the company to increase their stock and loans, to enable them to rebuild the road as rapidly as required, and we hope it has been done at the late session, which has just adjourned.

From the treasurer's report it will be seen that the city of Cincinnati has contributed $300,000 in subscription to stock and loans.

The description of the new track, as given in the superintendent's report, shows that it will be one of the *best* in the country; and that their depots are on a large scale, and most of them permanent structures.

We congratulate those few *persevering* men, who have *almost* carried this work for years *on their shoulders*, upon the bright prospect of ample success, which they have now in full view before them, and hope it may stimulate those interested in other works in the state, especially from Columbus eastward to the Ohio river, and north-eastward *to*, and *along* the lake.

The First American Cotton Factory.

"At Pawtucket, Rhode Island, is the old mill of Samuel Slater, Esq., being the first building erected in America for the manufacture of cotton goods. It is a venerable wood built structure, two stories in height, bearing numerous evidences of its antiquity, and we believe was erected in 1793. Two spinning frames, the first in the mill, are still there, and are decided curiosities in their way. It is almost incredible to believe that this old building, time-battered and weather-browned, was the first to spread its sheltering roof over the young pupil of Arkwright, and that those dwarf frames, rusty and mildewed with inactivity, are the pioneer machines of that immense branch of our national industry—the manufacture of cotton goods. Mr. Slater, the father of American cotton manufactures, was so closely watched at the English custom house that he could not smuggle over a drawing or pattern. He had, however, acquired a full knowledge of the Arkwright principle of spinning, and from recollection, and with his own hands, made three cards and twenty-two spindles, and put them in motion in the building of a clothier, by the water wheel of an old fulling mill. Fifty-four years have since elapsed, and the business has since increased beyond all precedent in the history of manufactures. Our rivers and wild waterfalls that then flowed and bloomed in solitude, are now propelling thousands of mill wheels, and millions of shuttles and spindles. In the business hundreds of fortunes have been made—thousands of our citizens earn a subsistence, and find constant employment, while millions are clothed in different portions of the globe. A wonderful revolution has that old mill produced on the shores of the new world."

We find the preceding account of the *first* American cotton factory in the Scientific American of 4th inst., and give it a place in the Journal for the purpose of calling attention to the *change* in our *condition, pursuits*, and views, which have occurred *since*, and *in consequence of*, the introduction of the cotton manufacture into this country; and then to point to the future, and ask the contemplation of what the ensuing 54 years will produce—in consequence of the introduction of *railroads*—in addition to the present advanced state of the manufacturing interests of the country! He must be a bold man who attempts to describe the reality, should no unexpected reverse overtake us.

Ohio and Pennsylvania Railroad.

The Pittsburg Gazette says that a "very efficient meeting," of those favorable to the project of the Pittsburg and Ohio railroad company, was held at Pittsburg on Wednesday evening. Several gentlemen were present from Ohio, and gave valuable explanations in relation to the charter, which has been granted by that State. The Gazette says that the charter is liberal and all that could be wished. Resolutions were unanimously adopted approving it—requesting the committee named therein to give notice for a meeting at the earliest possible day, for the purpose of organizing under the charter. That books for the subscription of stock be opened at Masillon, Wooster, Canton, New Lisbon, Beaver, and Pittsburg. Also, urging the immediate co-operation of the Pennsylvania Legislature.

We hope the friends of a railroad connection, between Pittsburg and the interior of Ohio, will not too much divide their forces, and *thus be conquered*.

Rights of Railroad Companies and Passengers.

We find in the Ledger of 13th inst., the following account of a trial, in relation to the *rights* of railroad companies to establish their own regulations, in requiring passengers to exhibit their tickets to the conductor, which was recently had in the Essex (N.J.) Circuit court.

It seems that "a Methodist clergyman named Graves brought a suit for damages for trespass against Mr. Gamble, the agent of the New Jersey railroad company. Mr. Graves was a passenger in the cars on the 24th of March last. Gamble came through the cars for the tickets, when plaintiff paid him 75 cents; defendant asked him if he had a commutation ticket, and requested him to show it; some words ensued, and defendant said if he did not show his ticket, he would be obliged to put him out of the cars, which subsequently he did on a second refusal to show his ticket. The court in its charge took the ground that the company must carry passengers for hire, but have a right to establish reasonable regulation on the road. The case is analagous to that of an innkeeper, who is bound, it is true, to entertain all who apply for entertainment at his house; but who is always entitled to lay down reasonable and proper rules to be observed in it; and he who enters as a guest, enters subject to those rules; and his right to remain lasts no longer than his compliance with them. The court further said,

"The exercise of a clearly legal right by abuse may amount to a trespass. If the passenger is wantonly insulted, or his feelings outraged—if undue violence is used in removing him from the cars—or if an attempt be made to remove him by force before requesting him to depart; if he be removed from the cars in an unfrequented spot, far from human habitation, in the midst of a tempest, in the darkness of midnight—in short, if any wanton act of aggression be committed on the rights of the passenger; if there be any exercise of authority or power beyond what is clearly required by the necessity of the case, to protect the just rights of the company, they become the aggressors, and are answerable in damages.

"The jury took the same view of the case and the facts, and returned a verdict in favor of the agent, Mr. Gamble."

We do not quite understand why the question of "commutation ticket" came up after the clergyman had paid 75 cents.

The position of a railroad conductor is one of great difficulty, and requires a man of firmness and discretion—and he, like the "*general delivery clerk*" at the post office, should have an exceedingly *amiable* disposition, to get along smoothly, and avoid giving and taking offence, as he is sure to meet with many very *crooked sticks* in the discharge of his duties.

Rates of Tolls on Railroads.

The Miners' Journal says that the following rates of toll have been adopted on the different railroads in Schuylkill county: Mine Hill and Schuylkill Haven railroad, 2½ cents per ton; Schuylkill Valley railroad, 3 cents per ton; Mill Creek railroad, 4 cents per ton; Mount Carbon railroad, 6 to 6½ cts. per ton; Little Schuylkill railroad, a fraction less than 3 cents per ton. They are graduated according to the scale adopted upon the canal, and were to take effect on the 13th inst. They leave a margin of 85, 90 and 95 cents for freight on canal, and the expenses of transportation from the cars into the boats at the landings in this region. Should these rates be adhered to throughout the season, the Journal says, the canal will receive a fair share of the trade, probably quite as much as she can accommodate with the present supply of boats and cars. The Schuylkill Navigation company have made the necessary arrangements to avoid the delay which frequently occurred last year, in towing boats from the Schuylkill to New York, near the Delaware and Raritan canal.

Cincinnati and Wabash Trade.

The LaFayette Journal says, we are authorised to state, that the board of public works of Ohio, in conjunction with the trustees of the Wabash and Erie canal, have made a material change in the charges upon this trade. On merchandise the reduction of toll from Cincinnati to LaFayette, amounts to sixteen per cent., and on groceries, such as sugar, molasses, coffee, etc., the reduction amounts to 42 per cent. With these charges, it is supposed that groceries may be brought from Cincinnati to LaFayette for 50 cents per hundred, including toll and freight.—It is the intention of forwarders, engaged in this trade, to put on an additional number of boats, and a large increase in this branch of canal transportation is anticipated.

On the Toledo trade there is no great change.—Merchandise will hereafter pay an uniform toll of 20 mills per mile per 1000 lbs., throughout the canal. On lumber, shingles, shingle bolts, etc., the toll has been reduced near 25 per cent. Some reduction has been made on passengers, and their furniture, with the view particularly of favoring emigration. On produce there is no change.

With a view further to promote the interests of the trade with Cincinnati, we understand that an earlier opening of the canals, than has heretofore been customary, will be aimed at.

American Lakes and their Commerce in '47.

We have not yet received a copy of the late reports of the Topographical Bureau at Washington, and therefore copy the following from the Commercial list of this city:

"Late reports of the Topographical Bureau at Washington, contain the following particulars of the size, depth, and width of the great lakes in this country. The commerce of these inland seas already exceeds that of the Mediterranean. What will they amount to fifty years hence?

"The great lakes of our country, which may justly be considered inland seas, and to which the inland commerce described in this report relates, are the following:—Champlain, Ontario, Erie, St. Clair, Huron, Michigan, and Superior. These lakes are of great depth, as well as of great extent. The entire line of lake coasts embraces about 5,000 miles, 2,000 miles of which constitute the coast of the foreign power.

Lake Champlain is	105 miles long.
Its greatest width	12 miles.
Its average width	8 miles.
Lake Ontario is	108 miles long.
Its greatest width	52 miles.
Its average width	40 miles.
Lake Erie is	240 miles long.
Its greatest width	57 miles.
Its average width	38 miles.
Lake St. Clair is	18 miles long.
Its greatest width	25 miles.
Its average width	12 miles.
Lake Huron is	270 miles long.
Its greatest width, (not including the extensive bay of Georgian, itself 120 miles long, and averaging 45 wide,) is	105 miles.
Its average width	70 miles.
Lake Michigan is	340 miles long.
Its greatest width	83 miles.
Its average width	58 miles.
Lake Superior is	420 miles long.
Its greatest width	135 miles.
Its average width	100 miles.

"These lakes may be considered as connected

throughout their whole extent. Lake Champlain connects with Lake Ontario by means of the river Richelieu; the lock and dam navigation of St. Lawrence river, the Ottawa river, the Rideau canal through Canada, and the Champlain and Erie canals of New York. Lake Ontario is connected with Lake Erie by means of the Welland canal through Canada, and by means of the Oswego and Erie canals through the State of New York. Lake Erie is connected with Lake St. Clair by the deep and navigable strait of Detroit, 25 miles long. Lake St. Clair is connected with Lake Huron by the deep and navigable strait of St. Clair, 32 miles long. Lake Huron is connected with Lake Michigan by the deep and wide strait of Mackinaw, and with Lake Superior by the strait of St. Mary's, 46 miles long. This strait is navigable throughout, except for about one mile of its length immediately adjacent to Lake Superior, where, from rocks and the extreme rapidity of the current, navigation ceases. These difficulties can, however, be easily surmounted by a canal of not more than a mile long, with locks to overcome a fall of about 21 fe t. The only additional obstruction to this immense extent of inland navigation is in St. Clair lake, on approaching the St. Clair strait. This obstruction consists of an extensive bar, but not of great width, over which not more than seven feet water, in depressed conditions of the lakes, can be counted upon. From an examination of this shoal, it has been found to consist of an indurated marl, leaving but little cause of doubt that if a channel were once dredged through, it would remain a durable improvement.

"Lake Champlain lies exclusively (except the strait near Rouse's point,) within the States of Vermont and New York, the former occupying its eastern, and the latter its western margin. It is not considered a dangerous lake to navigate, and the principal protection which its commerce requires, is in form of breakwaters, to shelter its open harbors."

And the commerce of these lakes for 1847 was estimated at $120,000,000! What will it be half a century hence?

Mixed Gauge for Railroads.

The gauge question has not yet been settled in England, though it has attracted much attention, and caused much discussion. Mr. Stephenson and Mr. Brunel each made reports on their favorite gauge—which were published by parliament—and Mr. A. C. Morton, engineer of the railroads from Portland to Montreal, made an able report in favor of a wider gauge than is in general use in this country—which may be found in the volume of this Journal for 1847.

There appears now to be an effort, by Mr. Brunel, to introduce a *mixed* gauge on some of the lines in England, of which we find the following description, and illustration, by "An Engineer," in the Railway Chronicle for February 5th. The writer says:

I had a few days at my disposal last week, and have read with interest Mr. Stephenson's and Mr. Brunel's reports on a mixed gauge as a remedy for a break of gauge, I determined to bestow my leasure in visiting the only existing example we have of the mixed gauge, namely, the line between Cheltenham and Gloucester. This piece of line has been laid down, it appears, under Mr. Brunel's own directions, Mr. Stephenson having consented to Mr. Brunel's wishes in respect to the details connected with the mixture of the gauges being in all respects consulted.

Under the impression that the result of my observations may not be uninteresting to engineers, I beg to send you the following memoranda, which I made on the spot.

Before proceeding, I may state, that from Gloucester southwards to Standish, a distance of about seven miles, there is a broad gauge railway, used in common by the Great Western railway company, for the traffic between Gloucester and Cheltenham via Swindon to London, and by the Bristol and Birmingham section of the Midland company's lines, for their traffic from Gloucester to Bristol—the Bristol and Swindon lines (both on the broad gauge) diverging at Standish.

From Gloucester, northwards, the narrow gauge of the Midland company proceeds to Birmingham; and between Gloucester and Cheltenham, in addition to the narrow gauge rails, the Great Western have laid a third rail on each track, to allow of broad gauge trains running to Cheltenham, where they have a separate station from the Midland company. Between Gloucester and Cheltenham there is thus the first example of a mixed gauge railway.

On arriving at about three-quarters of a mile from the Gloucester station by an express train from London, I found that our train was turned by a switch (meeting the train) across the *up** line of the Bristol and Gloucester railway. When we had gone about 200 yards further, we crossed a turntable on the main line, and pulled up. As we crossed this turntable, I perceived with some dismay an engine and two carriages approaching us at a distance of about 50 yards, upon a line of railway which crossed the turntable which we had just passed over at right angles to the line on which we were running. This engine and train having stopped, (fortunately in time, or of course it would have cut our train in two) several passengers got out of their carriages and made for our train, one or two with luggage in their hands—an annoying proceeding to them, as it was raining hard at the time, and the platform is uncovered. Two carriages of our train were then detached by means of the turntable which has been mentioned, and were taken back by the engine on the "spur" line, as it may be termed, to Gloucester, while we proceeded to Cheltenham.

All passengers from Gloucester to Cheltenham, and from Cheltenham to Gloucester, a distance of seven miles, by any of the thro' broad gauge trains, have thus, it will be seen, to change their carriages on an exposed platform a mile from Gloucester.

This very peculiar, and as it appears to me, objectionable mode of working the Gloucester traffic as a branch traffic, with a separate engine and train for the branch, such branch being less than one mile long, and cutting the main line at right angles (the junction being effected by a turntable) is the result of the lines of two different gauges meeting at Gloucester in the station as in a *cul de sac*, so that the station lies off the road altogether, and can only be reached by a branch; which is itself the consequence of the lines north of Gloucester being of one gauge, and those south of Gloucester being of another gauge; for which reason a necessity arises of bringing the broad gauge rails parallel to the narrow gauge rails, for the purposes of transhipment.

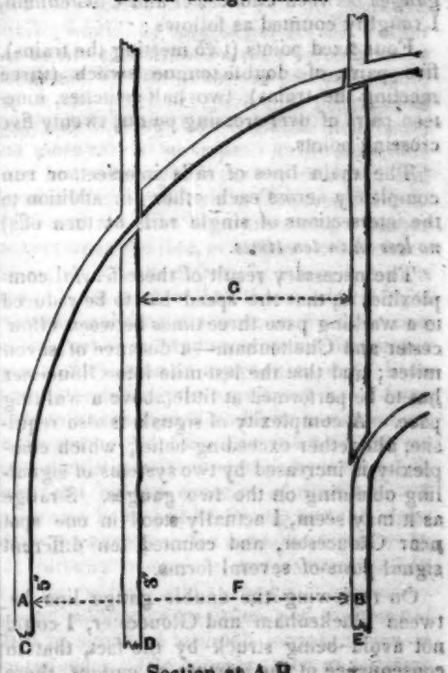
* By the term "up line," I refer to that line of rails on which the trains from Cheltenham to London or Bristol run. The "down line" will consequently be that line on which the trains from London and Bristol run.

Having parted with our Gloucester carriages, and picked up the Gloucester branch traffic, as described, we proceeded to the point where the broad and narrow gauges become mingled, which is at a place called Barnwood. In order to get on to the down track of the Bristol and Birmingham narrow gauge line, we here crossed the up line of that railway again, as we had within a distance of a quarter of a mile already done once before. We were now on the mixed gauge: on getting on to it we got a sharp shake, and the road itself between this and the point where the broad gauge rails turn off to the Cheltenham station, was somewhat rough, but not particularly so.

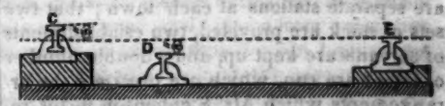
The road is adapted to the broad gauge by the laying of an additional rail on each track, fastened to the sleepers, which are new and longer than the ordinary sleepers for a narrow gauge track. These additional rails are put on the outside of the narrow gauge outside rails, so that the common rail is the *inside* rail of each line, and not the outside rail as suggested by Mr. Brunel in his report on the Oxford and Rugby line.

On approaching Cheltenham, we were "slowed," and turned off to the broad gauge Cheltenham station, which is distinct from the narrow gauge station, crossing here again and for the third time in a distance of seven miles, the up line of the Bristol and Birmingham railway.

Broad Gauge Station.



Section at A B.



The turnoff is effected, not by means of a switch in the usual form, but by cutting a notch in the common rail, and so making a fixed point, (meeting all the trains of both gauges) and then by raising the level of the

broad gauge outer rail, C, five inches above the level of such fixed point, which is the same as that of B, while the level of the narrow gauge outer rail, D, is kept three inches below such fixed point.

The broad gauge carriages are thus canted over so as to run on one side of the fixed point, while the narrow gauge carriages are canted over in the opposite direction, so as to take the other side of the fixed point. This, it will be seen, is merely substituting a fixed point meeting the trains for a half switch; it does not, I confess, appear, to me to be either an improvement, or calculated to remove, in the slightest degree, the complexities inherent in a mixture of gauges.

Near Barnwood, where the broad gauge rails turn off towards Standish, avoiding the Gloucester station, there are broad gauge lines laid down in a manner which cannot be explained without a diagram, to enable broad gauge short trains from Cheltenham, (that is to say, trains proceeding no further than Gloucester) to run straight into Gloucester. The broad gauge trains running into Gloucester, however, by means of these lines, must cross the up line of the Bristol and Gloucester line once, the spur line (see *ante*) once, and then both the up and down lines of the Birmingham and Gloucester—a very hazardous course.

The additional switches, fixed points, over-crossing points, and crossing points occasioned by the intersection and mixture of the gauges between Gloucester and Cheltenham, I roughly counted as follows:

Four fixed points (two meeting the trains), five pairs of double tongue switch (three meeting the trains), two half-switches, nineteen pairs of over-crossing points, twenty-five crossing points.

The main lines of rails intersect or run completely across each other (in addition to the intersections of single rails at turn offs) *no less than ten times.*

The necessary result of these fearful complexities is, that the speed has to be reduced to a walking pace three times between Gloucester and Cheltenham—a distance of seven miles; and that the last mile into Gloucester has to be performed at little above a walking pace. A complexity of signals is also requisite, altogether exceeding belief, which complexity is increased by two systems of signalling obtaining on the two gauges. Strange as it may seem, I actually stood in one spot near Gloucester, and counted ten different signal posts of several forms.

On reviewing the double gauge line between Cheltenham and Gloucester, I could not avoid being struck by the fact, that in consequence of the mixture of gauges, there are separate stations at each town; that two sets of stock are provided, two establishments of servants are kept up, and a double number of trains are run, which are precisely the arrangements which Mr. Stephenson in his report on the double gauge declared would be necessary in order to obtain any use from the double gauge, and which arrangements are such as he estimates cost an average sum equivalent to $18,000 per mile, in addition to the ordinary cost of even a broad gauge railway. The mode of laying and working the gauges, which Mr. Brunel suggests in his report, namely, by making the outside rails common to both gauges, which he advocated as the simplest mode of uniting the gauges, and as "admitting, (in his words.) without any complication whatever, of the running of all the trains of both gauges into the same sidings, and up to the same passenger platforms," has not, it appears, been attempted to be exemplified between Gloucester and Cheltenham, neither has the attempt been made to run broad and narrow gauge carriages in the same train, which the advocates of a mixed gauge have talked of.

So that, so far as the experiment of working a mixed gauge between Cheltenham and Gloucester proves anything, it would appear to verify precisely the predictions of Mr. Stephenson.

The cost of laying this piece of mixed gauge railway between Gloucester and Cheltenham—from the enormous space occupied at the stations, the length of the sidings and the numerous intersections of the rails, the reduplication of stations, and everything else—must have been prodigious; and the cost of working, with its duplicate establishments of servants, engines, carriages, etc., must be very great.

There are no less than twenty six passenger trains running each way, for the accommodation of the not very enormous traffic between Gloucester and Cheltenham; eight trains a day each way would certainly afford ample accommodation for this traffic. I was amused to hear that goods were carted from one broad gauge station (that of the Bristol and Gloucester line) at Gloucester, to the other broad gauge station (that of the Great Western line) also at Gloucester, not fifty yards distant from each other, as the crow flies, but owing to the complexity of lines attending the mixture of the gauges, nearly *two miles* distant by railway, for which reason it is found easier to cart the goods across than to shunt the heavy trucks of the broad gauge from station to station. The road actually beats the railway in this instance.

The general conclusion to which I came, from my visit, was, that the mixture of gauges resulted in a form of railway so unsafe, so intricate and broken up, and so extravagant in point of expense, as to render it altogether inadmissible as a practical arrangement, and ruinous to that simplicity on which the utility and safety of railways depend.

AN ENGINEER.

Railway Accidents.

An accident recently occurred on the London and South Western railway, which it seems to us could not have occurred if the men on the luggage train had been attending to their duty. We give the details in order to give the remarks of MR. LOCKE, engineer in chief, in relation to the enforcement of *rules*.

The following facts came out before the coroner's jury, viz:

The 3 30 p. m. train from Southampton was brought to a stand-still near Frimley, about a mile and a half on the Southampton side of Woking, from some disarrangement of the machinery of the engine. The engine driver in charge of the train, immediately proceeded to repair the defect, and in order to prevent the possibility of accident, the second guard was sent back with a red light to stay the progress of the usual night luggage train from Southampton. This officer had been gone twenty minutes, when the expected train was heard approaching, and in order to insure safety, another person was sent back with a red lamp. This person had scarcely cleared the passenger train, when the luggage train ran into it. Markland, the engine driver, who was just putting the finishing stroke to the repairs of his engine—the first guard holding his lamp to him at the time—was crushed to death beneath, and the brakesman and the stoker of the luggage train were injured, the former more especially. A portion of the passenger train was thrown off the line. Some of the passengers suffered from contusions. One gentleman, the Rev. Mr. Hutchins, of Atherstone, Stoke upon Trent, had his leg broken. The authorities on the spot were as active and attentive as possible to those hurt. The trains were subsequently brought up to town by a pilot engine, sent from Guildford to ascertain the cause of delay to the passenger train.

Jan. 17.—At the inquest, at Woking, on the body of Markland, the company's officers were in attendance to give evidence, and to watch the case. The coroner required the attendance of the two servants in custody.—He should take such evidence as was now tendered, and should adjourn the inquiry.—Mr. D. Nicholson, surveyor of Wandsworth, Mr. Beham, and Mr. W. Young, assistant superintendent, who were travelling by the train in question, gave evidence corroborative of the facts above stated. According to the statement of Mr. W. Young, the gaurd, Mr. Brownsmith, did not use the detonating signals provided; but in answer to this, it was shown that the night was clear, and that as the red lights could be well seen, that there was no occasion for the use of the detonators. The inquest was adjourned till the 20th.

Jan. 20.—The inquest was resumed at Woking, in the absence of the two prisoners.—Mr. C. S. Ward was examined. After detailing the cause of the stoppage of the passenger train, he said: On receiving directions from Mr. Young to aid in stopping the advancing goods train, I ran on some 200 or 300 yards in the direction of the approaching train, which was then some distance off. Felt no alarm as I was told somebody had been sent back to stop the goods train. I distinctly saw the white light of the coming train at a distance from me of I should say, about two miles. As the train approached, perceiving that the steam was not shut of, I took off my hat and waved it. On the engine passing me I saw two men. One was standing up at a greater elevation than usual on that part of the engine where the fire is. The other was standing on the usual place upon the engine. I shouted to them, and they shouted in return. I saw by the rate they were going, that they must run into the passenger train, and I turn-

ed my head the other way to avoid seeing the collision. I saw the red light then advancing at a considerable distance behind me. I could not distinguish the person of the guard who was carrying it, but I distinctly saw the light from his lamp. I suppose that was the guard who had been sent back to stop the advancing train. Mr. C. Stovin, the general manager of traffic, handed in and interpreted the rules of the company providing for accidents. The guards are so placed that they can see both forward and backward, and it is their duty to keep a good lookout and observe signals. No plan for keeping upa communication between the guards and the drivers has yet been devised that would work. Such a communication would be very desirable. There is now a bell used, which is found to be the best means of communicating with the driver.—There is a rule, (65) which requires the driver to keep a sharp lookout forward, and he must attend to any signal that may be made, whether he understand it or not; and the fireman is also bound to keep a sharp lookout, both before and behind. The guards' boxes in the luggage train are not so constructed as to enable them to look out without putting their heads out of the box, which they are expected to do from time to time. The boxes on the passenger train are elevated, and so made that the guards can look out in all directions. Considered the detonating signals should always be used; and for this reason had given Brownsmith into custody. Mr. Young repeated his former evidence. Mr Gooch, superintendent of the locomotive department, produced a time table. The luggage train ought to have been going at the rate of about 20 miles an hour; it would thus take them about ten minutes to traverse the embankment. It was passed by the passenger train at Winchfield. The passenger train was due at Woking a 8 p.m. on Friday evening. The goods train left Southampton at 4 10 p.m., and was due at Woking at 8 20 p.m. On dark clear nights I have seen the red lights at a distance of from five to six miles. Under all ordinary circumstances, 600 yards would be sufficient to bring a train to a stand still, even an express train. The gradient on the embankment is partly 1 in 300, and partly 1 in 333. In foggy weather or after slight rains the rails become greasy, and it is more difficult to stop a train. The accident that caused the stoppage of the engine of the passenger train, was one to which all engines are liable. The name of the engine was the "Mazeppa," and it was built in the company's own workshops, under my superintendence, about 15 months ago. I examined it about a week before the accident, and it was then in a perfect state of repair The injury done was the breaking of the cotter, and the object of the deceased in going underneath the engine was to take away the two pieces of iron which it coupled. It might have occurred by a nut working off. Jones has been in the company's service 12 months, and Fleming 20 months. I had strong testimonials from two other railway companies with Jones; he had been a good and steady servant, and sober. Jones has been an engineman from nine to ten months; before that he was a stoker. Both he and Fleming were considered steady and trustworthy men. W. Bott, engine fitter, stated that the locomotives of both trains were in perfect repair at the time of the accident.

The editor of the Chronicle says, "In the course of the evidence on the inquest on the recent South Western accident, a good deal of interesting professional information has been elicited, which will be found in its proper place. But there were some observations made by the engineer in chief, having a wider application; made in so excellent and kind a spirit, and exhibiting so much sound policy in reference to railway accidents and railway management in general, that we transpose them for more immediate comment. The true circumstances of the accident and its explanation are quite evident to one familiar with the working of railways. All the men appear to have been good men, and to have done their duty in their understanding of it. There remains one circumstance to be explained—how the driver and fireman of the luggage train did not see the red lamp which met them three-quarters of a mile from the scene of the disaster. It is plain they were not on the lookout ahead at the time of passing the guard who had the lamp. They did not see the light. Why? has not been explained, but will perhaps. On this point we are unwilling to anticipate the decision of the jury. Meanwhile there remains this important practical consideration applicable on all railways, and already applied on many—Cowper's signals, of which we early gave favorable notices in this journal, should be in the cartouche-box of every guard. Let them be no longer called 'fog signals.' *Torpedos* would be a capital name, as suggested in our correspondence. Let the rule be made universal on all railways, that the moment a break down or stoppage takes place, the guard, or person sent back to stop a following train, shall at every 300 paces place a torpedo on the rails. This will extend to a mile, if he walk on till he has exhausted the half-dozen with which he is supplied. No better safeguard can be provided against the repetition of such a disaster.

"The evidence to which we have already adverted, as exhibiting the true spirit of railway management as distinguished from the red tape rotine with which government officials would fetter us, is given by Mr. Locke in the following words:

"'Railway servants are not so strict as soldiers, in following their directions. That is a fault, perhaps, but for my own part, I should seldom feel inclined to blame men who had exercised a reasonable discretion, although the result might not be so favorable as they had anticipated. I have seen and watched the progress of railways from their infancy, and I am convinced that the exercise of a little discretion on the part of railway servants has saved the public much trouble and inconvenience. The coroner said, with respect to what Mr. Locke had stated relative to the exercise of a discretion on the part of railway servants, he remembered a case which lately occurred in the north, where a railway servant had saved a train from being overturned by sending it upon a wrong line. He did not know that this had anything to do with the present case, but, so far as it went, it confirmed Mr. Locke's observation. Mr. Locke said, the case to which the coroner referred had occurred upon the Grand Junction line, and he was glad he had reminded him of it. The company's servant on that railway, finding that a train was advancing at a faster rate than it ought to have travelled, and that if he had obeyed the signal the train would be turned upon a curve, where, going at that rate of speed, it would probably be thrown over, turned it upon the wrong line of rails. There was no doubt that that man, in the exercise of a little discretion, had saved that train, and it was not by any means the only case which had occurred in his experience. Still he did not wish to excuse the man who had in the present case disobeyed orders. I am most anxious in all cases to do what we possibly can to lessen the frequency of railway accidents, but at the same time I am not over anxious to press upon these unfortunate men. I have been so much accustomed to ride on engines myself that I have no doubt I also have committed faults with the best desire to prevent accidents. Enginemen will sometimes not be looking ahead; they will be thinking about other things; and accidents will arise, I am afraid, as long as the world is constituted as it is, if you try and do all you can to prevent them. I do not think that any railway company has better servants than the South Western company. I recollect the faces of many of their engine drivers ever since the railway was opened, and many others have been with the company a long time. These accidents make men more cautious, and if you were to visit such accidents with very severe penalties I do not think the public would be any better served. After one or two misfortunes a man becomes more steady and careful than the one you would put in his place. I have seen instances of this, and I know that it makes them better and more careful servants. At the same time I am bound to say that the engine driver and fireman of the goods train (Jones and Fleming) could not have been exercising a proper lookout upon the line, or they must have seen the signal. I am extremely sorry, but so it was. I am aware that the opinion I have avowed respecting the exercise of a discretion on the part of railway servants is a dangerous opinion for a man in my position, and I have some little delicacy in expressing it. I have made mistakes myself, and I have seen others do the same; but I have seen also much inconvenience saved to the public by acts against rules and by the exercise of discretion. I know we have public feeling and the press ready to censure us for not adhering to rule, but railway operations are so multifarious that the public would not be better secured by a blind adherence to rules, and they would often be subjected to much inconvenience in consequence. The coroner: then an accident such as has happened in this case would not take away your good opinion from a man like Brownsmith for example? Mr. Locke: not at all. I should look at the case of course with reference to his past conduct and his general intelligence. I had a great respect for Markland (the deceased). He was so steady I would have trusted him with anything. I believe he has often been with the queen in her journies along the line. The cause of

the stoppage of the locomotive of the passenger train might have occurred to any engine, but it was one that rarely does happen. Locomotive engines travel a long while without requiring repairs. There is one on the Grand Junction railway which has run 37,000 miles without requiring the least repair, and many of them never require repairs more than once in twelve months. The machinery part of railway locomotives is very different from what it was; I believe these engines are now almost as perfect as hands and iron can make them.'

"There is so much good feeling, strong sense and practical reasoning in all this, that we are sure our readers will thank us for having drawn their attention to these remarks."

Little Miami Railroad Report for 1847.

RAILROAD OFFICE,
CINCINNATI, *December*, 1847

To the Stockholders in the Little Miami Railroad Company:

GENTLEMEN:—The directors respectfully present to the stockholders their annual report of the proceedings of the board in the management of the concerns of the company, committed to their charge, for the year ending on the first of the present month, accompanied by the reports of the officers in the several departments, exhibiting in detail the operations within the year—the business done in transportation, the machinery procured, the improvements made in the erection of the necessary buildings, repairs made on the line of the road, the receipts and expenditures, and the state of the finances at the end of that term. These will present at one view the facts of most interest to the stockholders. It will thence appear, that the business in the transportation of freight and passengers, has been continued throughout the year without interruption or unusual casualty—that the receipts, under the unfavorable circumstances in which the business was conducted, have been fully equal to our expectations. The net earnings have exceeded the estimate made at the beginning of the year, and, no doubt, would have been largely increased, had the company been in possession of sufficient machinery in the beginning of the year, to do the business in freight that then offered, at the various points along the line. The loss to the company and to the shippers of produce, from the deficiency of machinery for freight transportation, experienced throughout the last year, could not by any exertion be fully remedied for several months after the commencement of the present year. The partial failure this season in the wheat harvest, and the reduction in the price of flour in the market, has as yet prevented the shipment of any considerable quantity of that staple commodity. The freights in that article in the present season, when compared with that of the last, are but inconsiderable. The labor and expense for keeping the track in passable repair, has been much increased by the unusual wetness of the present year. A road structure too light to sustain the weight and wear of heavy trains in ordinary times, could not be kept in good order, or even passable condition, without constant attention and a heavy outlay, under the frequent rains of the season. The clay foundation of the superstructure, constantly saturated, yielding to the pressure of the trains, caused frequent displacements of the track. At the time of the commencement of our road, the means for the construction were but limited; works of the kind were new to the country. Many then doubted the feasibility of the project—disposable capital not abundant, and few had the ability to contribute to the stock on a large scale; hence the plan of construction—the estimates of cost, and the capital stock designated by the charter, were all calculated on the scale for a cheap work. The road was made to conform to the measure of the means provided, and was formed with the light plate bar iron, the mode then in common use. It was soon discovered that roads formed on this construction could only be safely used by running at a slow speed, and with a light train; and that engines of great power, capable of drawing heavy trains, could be employed with most economy and safety in the working of the road. By adding to the power of the engine, a larger business may be done, without increasing the cost of running. The expenses are nearly the same whatever class of engines are made use of. The cost of engine men, firemen, and for superintendence and management, is the same on the light as on the heavy trains; nor is the preference given to the heavy trains with a view solely to the economy in transaction of the business, for more security against delay and accident is attained. To do the same business, a less number of trains will be on the road at the same time, hence the frequent delays at the *passing stations* will be lessened, and the danger of collisions measurably avoided. On almost all the railroads brought early into use, the weight and power of the freight engines have been from time to time increased, and the roads rebuilt in a more substantial form to sustain the action of the heavier trains. The substitution of a heavier iron rail, in place of the light flat bar, has been made, or is being made, on all of these roads. The cost for maintaining a track laid with a light flat bar, in passable order, is annually more than double what is required to keep in good order the track laid with the heavy H rail It has been stated by an experienced engineer, "that in the greater annual expense in maintaining a track with a light rail, the company in the course of time will be amply remunerated for the larger capital which, in the first instance, a rail of heavier weight will involve."

The directors, from their own observation, became early satisfied that the construction of the road was defective, and not calculated to answer the purposes for which it was intended—and with difficulty the present business can be transacted in a sotisfacto-y manner, and that when the business is materially increased, as it will be by the junction of the Mad river and Lake Erie railroad—which junction, we are assured, will be formed in the month of May next; and also by the intersection of the Columbus and Xenia railroad, which at no distant period will take place. The work of construction has already been commenced on the east end of that road. It will then, with the additional business brought on by these connections, be utterly impracticable in the present state of the road, to meet the demands of the community for transportation. The business will imperiously demand the construction of a more durable railroad, to be laid on a firm and unyielding road bed. Convinced of the necessity of an exertion to effect this object, and encouraged by the example of other railroad companies similarly situated, an application was made to the State Legislature at their last session, for an amendment to our charter, to increase the capital stock of the company, and to authorize contracts to be made *on their own credit* for a new loan.

The application was responded to by an enactment, in which the objects of the application were in a qualified manner granted. The assent of the stockholders was required to several conditions, before they could avail themselves of the benefit of the grant. By the terms of the act, the acceptance of the conditions, or their rejection, must be decided by a vote of the stockholders. No meeting was called for the purpose of deciding the question, as it was the unanimous opinion of the directors and other stockholders informally consulted, holding in their own right a majority of the stock, that the qualifying conditions were onerous, and could not be accepted with safety to the future interests of the company.

The question will be submitted, in compliance with the requirements of the act, to a vote of the stockholders; not, however, with the expectation that the conditions will be approved, or the act accepted. Failing to obtain from the legislature a grant, on terms acceptable, of the right to increase the capital stock of the company to an amount commensurate with the objects in view, the affairs of the company were placed in a situation embarrassing to those having charge in the management of its affairs. The capital stock as limited by the charter, originally inadequate to the purpose intended, was now wholly exhausted—by actual stock subscriptions, by dividends awarded, and by loans convertible into stock at the option of the bondholders. With but limited funds in possession, and thus cut off from the usual available sources of supply, as additional stock subscriptions could not be received, nor new loans contracted for, on the former accustomed terms, the directors had to determine, in the exigency, the proper course to be pursued. The duty of improving the road, to meet the demands for transportation, both present and prospective, was imperative. The interests of the company and of the community demanded it. Progress in the work must be made as far as the means applicable to the purpose would justify. The funds, therefore, of which the board had control, were employed, and contracts *on time* made, in anticipation of future receipts to a limited extent, to effect the more necessary improvements and repairs.

The graduation of a double track from the

city to the seven mile post, to be laid with the heavy bar iron, has been principally executed, and authority given by a resolution of the board, for the extension of the double track graduation out to the fourteen mile post, fitted for a similar structure; locust cross ties have been contracted for, and a large quantity of them now delivered, to be used in forming the new track. Four thousand tons of H rail iron, weighing sixty-one pounds to the yard, have been contracted for; six hundred tons of which to be delivered in the present year, eight hundred tons in the next year, and the residue in the year following. A considerabe quantity of that to be first delivered, is now on the ground. A commencement had been made in laying down the new track, but the inclemency of the weather has interrupted the work. It will be extended for several miles early in the next year, and then form a substitute for that part of the old track now most out of repair.

The directors, impressed with the importance of a railroad communication with the seat of government, and a connection there with other railroads to be constructed, promising great facilities to eastern travel, and being persuaded that the interests of this company will be promoted by bringing the proposed work into early use, have concluded an arrangement with the Columbus and Xenia railroad company, (obligatory when approved by the stockholders,) for constructing a branch of their railroad from the town of Xenia through the county of Greene, in a direction to the city of Columbus, terminating at a point on the Madison county line, to be established by the mutual agreement of the agents of the respective companies. This branch road, when completed, and the legislature shall have given authority for the purpose, is to be transferred to the Columbus and Xenia railroad company, and thence become a part of their railroad—the Little Miami railroad company having received an amount of the stock of the other company, equal at par value to the cost of making this branch railroad.

It is not doubted but that by applying the net annual receipts from the road to the purposes of construction, the new track could be extended in the course of several years to the point of intersection with the Columbus road, and even to the extreme end of the line. It is, however, a course not to be recommended but as a last resort, in the failure of other means. Only a few miles could be completed in any one year, and the process of construction would be lingering and expensive. Such a course would not be generally acceptable—for the payments of dividends to the stockholders would thereby be deferred for an indefinite term. Better, however, adopt that course than suffer the road to go into a state of partial disuse, and our accustomed business to be diverted to other channels for conveyance.

An application to the legislature should be made at their present session for the same objects prayed for at the last. It would probably now receive more mature consideration, and be met with more liberal views than formerly. The interests in railroads is a growing one: the more they are brought into view will their value be more appreciated. Indeed, their utility at this time is universally admitted. A calculation of the advantages resulting from the establishment of one railroad, would go far to remove any doubts as to the general utility of such improvements. It is demonstrable that the value imparted by the construction of that work to the real es tate along and near to the line of the road, will constitute an aggregate amount much exceeding the cost of its construction; and that the annual saving in the expense of transportation by that channel, compared with the rates formerly paid on other routes, will constitute in the aggregate an amount more than equal the annual interest on the cost of building the road. This additional value imparted to the real estate, and the annual saving on the cost of transportation, is clear gain to the individual citizens residing within the range of its operations. The tolls collected on the public works, and the net receipts and dividends on turnpikes and railroads, is not the measure by which their value should be estimated. Works may fail to produce annually an amount in tolls and net earnings equal to the interest on the capital invested in their construction, and yet be of incalculable benefit to the community. The advantges arising from the construction of the Little Miami railroad would be realized on the extension of similar works in the other productive parts of the state, laying remote from market and the leading thoroughfares for transportation. It is manifest that whatever increases individual wealth in the community, will, in a proportionate degree, increase the capital, wealth, and revenues of the state. On the principles of just policy, the public authorities ought to aid and foster the exertions of associated individual enterprise, in the construction of improvements so eminently calculated to promote the general prosperity and wealth in community. This obviously just policy must eventually prevail. We then have a reasonable confidence that the application of our company to the legislature will be favorably received—the capital stock of the company so enlarged as to enable them to complete the work in which they are engaged, in the proper manner. Should this be the case, there is no doubt that additional subscriptions of stock would be made to a larger amount, and loans negotiated to supply the immediate demand for funds. The company thus provided, could in a short time finish their railroad with the requisite appurtenances, in the most approved and substantial manner; and with these facilities, ensure the prompt, regular, and secure transaction of the business. And it cannot be doubted that the business properly conducted, would afford to the stockholders a remunerating profit on their investments.

Before closing the report, it is proper to state, that the officers and agents in the employ of the company, have discharged their respective duties in a manner satisfactory to the board of directors.

JEREMIAH MORROW, *Pres't.*

TREASURER'S REPORT.

Abstract of the condition of the books of the company, December 1st, 1847.

For construction	$872,284	47
For depots and real estate	121,752	63
" machinery and animal power	223,878	00
" expenditure on account of transportation	112,263	91
For interest and expense	156,085	40
" subscriptions delinquent	46,100	72
" bills receivable	5,863	86
" cash in hands of treasurer	711	15
" cash in hands of agents, and due from sundry individuals	13,043	83
	1,551,979	99
By capital stock	$632,601	67
" loan from city of Cincinnati	100,000	00
" bills payable	124,344	91
" transportation receipts	221,139	52
" proceeds of eastern loan	204,390	00
" surplus Dec., 1846	986	39
" loan, 1846	220,000	00
" amount due sundry individuals	48,502	51
" profit and loss	14	99
	1,551,979	99

The amount expended up to the 1st instant for road cars, engines, and appurtenances, is as follows:

Graduation and masonry	$330,961	81
Bridges	28,593	55
Superstructure	423,453	63
Interest and expense account	155,245	15
Engineering	35,517	93
Machinery	223,503	40
Real estate	25,082	34
Lands for right of way	44,401	33
Animal power	368	50
Depot account and water stations	101,512	71
	1,368,640	35
Less, interest chargeable to current expenses	30,396	16
Amount expended	1,338,244	19

The amount expended during the year ending 1st December, 1847, has been:

For graduation and masonry	$16,625	15
" bridges	2,293	68
" superstructure	32,670	97
" interest and expense account	48,591	18
" engineering, including balance due	3,672	80
" machinery	98,614	30
" real estate	19,913	87
" lands for right of way	3,948	09
" transportation expenditure, including wages of men, fuel, horse power, repairs of engines, cars, etc., and also repairs and renewal of superstructure and road bed	112,265	91
For depots	33,432	38
	372,028	43

The receipts on account of subscription to capital stock and permanent loans have been,

From the city of Cincinnati, in bonds	$200,000	00
" " " loan	100,000	00
From the State of Ohio, in interest	6,900	00
" " " bonds	115,000	00
From the county of Greene, in cash	26,145	34
" " " bonds	23,000	00
" " " interest	854	66
" " Clarke, in bonds	25,000	00
From individual subscriptions	124,547	33
From proceeds of eastern loan	204,390	00
" loan of 1846	220,000	00
	1,053,599	99

The subscriptions to capital stock are,

By the city of Cincinnati	$200,000	00
" State of Ohio	121,900	00
" county of Greene	50,000	00
" county of Clarke	25,000	00
By individuals	131,047	33
	527,947	33
Amount of stock dividends to 1st December, 1847	58,553	62
Total	586,500	95

The present indebtedness of the company is,	
In bills payable	$124,344 91
In open accounts in the books	48,502 51
Permanent loans	624,390 00
Total	697,237 42

The earnings of the transportation department for the year ending the 1st inst., are as follows:

For carrying freight, passengers, and the mail	$221,139 52
The expenditures	112,265 91
Leaving the sum of	108,873 61

The account with stockholders will stand as follows:

Net receipts for the year	$108,873 61
Less, interest on loans now become a yearly charge on the revenue	30,396 16
	78,477 45
Less, also a charge to depreciation of machinery, 8 wheel cars, 4 wheel cars, and passenger cars, according to estimate of superintendent	20,479 95
	57,997 50

The preceding tabular statement shows a net earning by the road of nearly fifty eight thousand dollars, belonging to the present shareholders, and after dividing 8½ per cent. for the last year, will leave a surplus, or contingent fund, of about eleven thousand dollars I would therefore recommend that a dividend of 8½ per cent. be declared, payable with interest, on the 1st of January, 1850; and that scrip, or such evidence of debt as the board deem proper, be issued for the same. This form of payment will be necessary, as the road will require all the earnings, nearly, up to that time, unless funds shall be obtained by other means.

It is now about an average of six years since the stock has been paid up; and the aggregate of the dividends heretofore declared, payable in stock, has only been 11½ per cent., or less than 2 per cent. per annum. Should a dividend of 8½ per cent. be now made, it will make the average for the six years 3½ per cent. per annum to the original subscribers. These subscribers now retain more than *five* out of *six* of the shares originally owned by them—a fact which seems to show a confidence in the ultimate success of the enterprise, which is now for the first time about to be realized.

Should the Mad River railroad be completed early in the ensuing season, as is promised, the net earning of this road will not probably fall short of one hundred and sixty thousand dollars—a sum which will be nearly sufficient to pay off the present indebtedness of the company. But as the road is about to be re laid with the heavy rail, other means must be obtained to complete it in a manner to realize the expectations of the public, and to give to it the usefulness of which it is capable. This desirable end is so important to all who are interested in the business or travel of this region, and so essential to the carrying out of the great system of internal communication, of which this road forms a part, that it is hoped there will be no hesitation on the part of the general assembly now in session, in granting such an increase of our capital as may be required.

It may be proper to state, that an urgent necessity exists, for the removal of a part of the track which now runs upon the Cincinnati and Wooster turnpike, where it enters the city of Cincinnati. That road being a very crowded thoroughfare, and too narrow for the accommodation of the turnpike and railroad, serious inconvenience has been occasioned to the inhabitants, and to the public, by the location of the railroad upon it; and the directors of the railroad are anxious to change the route, by taking it off the road, and the street connecting with it, upon ground nearer the river, which will be occupied by ourselves exclusively. For this purpose also it may be necessary to ask the aid of the legislature.

In my last annual report I took the liberty of suggesting, that the business on our road, gratifying as it was, had been created chiefly by the road itself, and did not interfere with the receipts of the public works owned by the state, which are too distant from it to be materially affected by it. This view of the subject is confirmed by the reports of the officers of the state, showing the increased revenue of the state from that source, during the year just closed, and which, from the occurrence of several disastrous floods, has been particularly unfavorable in regard to such works.

Very respectfully,

JACOB STRADER, *Treasurer.*

SUPERINTENDENT'S REPORT.

OFFICE LITTLE MIAMI R.R. COMPANY,
CINCINNATI, *December*, 1847.

To the President and Directors of the Little Miami Railroad Company:

GENTLEMEN:—In presenting the fifth annual report for your consideration, it is gratifying to all connected with the transportation department, to be able to show, not only a greatly increased gross receipt, but also a corresponding net revenue for the benefit of stockholders. Considerable as this sum is compared to the means of transportation in the possession of the company during the first half of the year, and at a time when the greatest amount of business offered, it is, as has been the case previously, far less than the business of the country would have furnished, had the transportation department been equal to the demands upon it. The motive power up to June was entirely deficient; but since that time, seven new locomotives have been put upon the road, which, together with the opportunity given for repairs, by the usual falling off of freight during the summer months, has enabled us to place this portion of the machinery in good working order.

Since the date of the last report, the wooden rails and ties have been renewed for the distance of five miles, and the superstructure otherwise thoroughly repaired on the whole line. A further and heavy expenditure for this purpose will be necessary the coming year, on that portion of the road between Foster's Crossings and Xenia. That part of the road lying next to the city has received such repairs only as were deemed essential to the safe passage of trains. A contract was made, as was supposed, early in April, for a sufficient quantity of H iron to re-lay this part of the road in a permanent manner, but owing to a misunderstanding as to the time of delivery, no part of it was received until October. Three hundred and twenty tons, under a contract for four thousand tons, six hundred to be delivered this fall, and the remainder in one and two years, has come to hand, and another shipment of three hundred tons may be expected before the close of navigation.

Preparations have been made to lay it down as fast as received, and a few weeks of fair weather will enable us to substitute a new track for the present decayed structure. The iron weighs sixty-one pounds to the yard, and appears to be of superior quality. The plan adopted for laying the new track, it is believed, will make a road equal in all other respects, and superior in the quality of timber used, to any in the United States. A subsill four by ten inches, is imbedded in a coat of ballast, varying from twenty inches to two feet in depth. The cross ties, of black locust, averaging six by seven inches, are laid thirty inches from centre to centre, except at the joints in the iron rail, where two are placed intermediately. Opinions vary as to the durability of locust timber, but all agree in stating that it may be relied upon in this situation for twelve years, which is twice the length of time the best white oak will remain undecayed in this climate. Two plans of fastenings will be tried on the first division of six miles. One a cast iron chair, moulded to fit the base and stem of the rail, and the other two wrought iron clamps, rolled to fit the stem, and secured with rivets. It is hoped that a few months' experience will determine the relative value of the two modes, and enable a correct decision to be made between them.

The plan of erecting walls of masonry to sustain the hills where slides occur, interrupting the business of transportation, has been steadily continued; although from the unusual amount of rainy weather, as rapid progress has not been made as might be desired. One thousand feet linear has been completed, a small portion being erected at the joint expense of the owners of property and the company. The frequent and continued rains have increased the number and extent of slides at various points on the road, and as soon as the means of the company will permit, efficient steps should be taken to prevent further encroachments and liability to interruption from this cause.

In the month of November, the valley of the Little Miami was visited by one of the most destructive floods that has occurred in a great number of years. The water at two or three points measured by permanent marks, was ten inches higher than it had been for twenty years previously. The principal damage sustained by the road, beyond filling up ditches, was at the double culvert under the deep embankment at the Miami river. The masonry of the culvert was but just completed when the flood came. A levee erected at the head of a bayou to keep out the river at high water, gave way, and damaged the pier and both faces of the work to

the amount of five or six hundred dollars. The lateness of the season prevented anything being done, beyond securing it temporarily from further injury. The trestle work on the north side of the bridge over the Little Miami has been filled up with earth, except about nine hundred yards over the culverts previously mentioned as damaged. On the south side the work has been delayed in consequence of the unreasonable exactions made by the neighborhood in relation to a county road. It is believed that a better understanding of the contemplated change will remove the existing difficulties, and permit the work to progress. Otherwise it will undoubtedly be better economy to rebuild this portion of the bridge, than to yield to their demands.

The bridges on the road are generally in good repair, and all, it is believed, in a safe condition. A new and much more substantial bridge has been erected over Cæsar creek, in place of the old one, and the materials for a new bridge to substitute the present one over Todd's Fork, sold for a county bridge, are on the ground, and ready for use as soon as the stage of water will permit its erection. Under the head of repairs of bridges, is included the cost of the new bridge over Cæsar creek, less the value of old materials sold and credited to account. A similar charge year ly, in addition to current repairs, will be sufficient to maintain this portion of the superstructure permanently—extraordinary accidents excepted.

As the work advances, preparatory to relaying the road with heavy iron, it becomes important to decide upon the propriety of making such alterations in the location as will tend to improve the grades, and reduce the curvature. Several errors exist in the location of that portion of the road proposed to be re-laid in the ensuing year, and if they are to be corrected, no time should be lost. From the eighth to the ninth mile post, as it now stands, there is almost a continuous curve, when at a moderate cost a straight line may be substituted with equally, if not more favorable grades. From the twelfth mile post to Milford, a still more important change can be effected, reducing both grades and distance. Other points are also susceptible of minor improvement. No instrumental examinations have been made with a view to these changes, but no doubt is entertained, that true policy and just economy will justify the expenditure required to make them. As a matter of justice, it may be proper to state, that at the time the road was located, the company had not the means to construct it upon what would now be considered the most economical route. It was but too often simply a question between building the road with a certain sum of money, or not building it at all.

The necessary shops and engine house have been commenced and are nearly ready for use. The unusual amount of bad weather, has delayed their completion several months beyond the time anticipated. The buildings consist of a semi-circular engine house, calculated to receive ten locomotives; a machine shop, two hundred feet long by fifty feet wide; a car shop, one hundred and fifty feet long by fifty feet wide, all of brick, and a blacksmith shop, of wood, sixty feet by thirty. The necessary lathes, presses, planeing machines, etc., etc., have been ordered, and will, when brought into use, reduce the cost, as well as facilitate the work of repairs.

In addition to the buildings already enumerated, the company own in Cincinnati two freight depots—one two hundred and ninety-six by fifty-four feet, and the other two hundred and fifty by forty feet—both of brick; a passenger depot one hundred and fifty-four by sixty feet, and an office thirty six by twenty feet, also of brick: at Milford a warehouse one hundred feet by thirty, of wood: at Morrow a brick engine house thirty eight feet by twenty: at Corwin a warehouse fifty feet by eighty, of wood: at Xenia an engine house forty-six feet by sixty, and an office forty feet by sixty—both of brick; and at Springfield a semi-circular engine house, of brick, calculated for five locomotives, and a warehouse, of wood, one hundred and forty feet by sixty, besides wood sheds sufficient to cover four thousand cords of wood.

Two double water stations, one of brick, and two single ones of stone, have been erected during the year; and the materials are on the ground for two more. Two in addition will probably be sufficient for the wants of the road for a number of years to come.

The near approach of the time for the completion of the Mad River and Lake Erie railroad to its connection with this road at Springfield, renders it desirable that some arrangement should be made for the transmission of passengers and freight to points beyond the termini of the respective roads without unnecessary transhipment or delay. As it is important to the interests of both parties, that it should be settled before the opening of the line through, I would respectfully suggest the propriety of definite action at an early day. In anticipation of the great increase of travel and freight which the advantages possessed by this route during the summer months over all others in operation between the Atlantic seaboard and the west must give, under your instructions, six first class passenger, and twenty-four eight wheel feight cars have been ordered—all to be completed by the first of May, 1848. Orders have also been given for the construction of two passenger and one eight wheel connected freight engine.

It is to be regretted that difficulties are still thrown in the way of a change of location by a portion of the property holders in Fulton. The route selected between the turnpike and river presents many advantages over the side hill for a road, independent of the great cost and doubtful success of constructing a *permanent* work upon a moving mass of clay and stones. Great inconvenience and a heavy yearly expenditure will be saved by the change to the lower route, while it is believed that the owners of property and those doing business on the river will not suffer anything like the annoyance by this mode of transportation that they would, were drays and wagons to be substituted.

RECEIPTS AND EXPENDITURES.

On account of transportation for the year ending 1st December, 1847.

For carrying passengers	$90,843 90
For carrying freight	130,295 62
Total	221,139 52

EXPENDITURES.

For renewing rails and ties on five miles of track, and the ordinary repairs on remainder of superstructure	$7,376 14
For repairs of road bed, ordinary and extraordinary	17,390 75
For repairs of cars, including 31 new iron trucks	10,579 34
For repairs and renewals of locomotive engines	14,690 29
For repairs of machinery	323 15
" water stations	35 32
" bridges	1,668 55
For oil and tallow	3,098 05
For fuel	18,664 68
For rent	2,196 95
For loss and damage	3,371 86
For transportation expenditures, including wages of men, salaries, horse power, etc	32,947 86
Total	112,265 91

RECAPITULATION.

Total rec'ts on account of transportation	$221,139 52
Total expenditure " "	112,265 91
Net receipt over current expenses	108,873 61

A statement of the receipts each month in the year, for carrying freight and passengers.

	Passengers.	Freight.
1846, December	$4,117 84	$10,333 32
1847, January	4,186 38	9,306 93
" February	4,282 25	12,530 40
" March	5,520 22	15,007 80
" April	6 377 54	15,604 74
" May	8,482 39	13,811 01
" June	8,517 89	12,171 08
" July	11,568 66	7,059 19
" August	11,017 99	6,273 36
" September	10,409 24	7,736 11
" October	8,783 08	9,083 95
" November	7,580 42	11,373 09
Totals	90,843 90	130,295 62

A comparative statement of the business of the road for the years ending December, 1846, and December, 1847.

	Passengers.	Freight.
1846	$51,190 11	$64,861 91
1847	90,843 90	130,295 62
	39,653 79	65,433 71

Equals $105,087 50, or an advance of nearly one hundred per cent.

The number of cars will be found in an estimate of the present value of machinery, cars, etc. Great annoyance was experienced in this department during the business season of the year, from the want of uniformity in the trucks, journals, and wheels, which had been introduced from time to time. If an accident occurred, it was often difficult to replace the broken part, on account of the diversity of forms and sizes in use. To remedy this difficulty, and to obviate objections to the old form of trucks, a new iron truck has been adopted, which, after a six months' trial, we have found far more simple, safe, and economical than any heretofore in use. The greater liability of axles in four wheel cars to break, together with the disagreeable motion and want of safety otherwise on an uneven road like this, has induced the abandonment of this form of car for general use. During the summer, thirty-two have been broken up, and the materials sold and credited to the account.

A statement of the amount charged on the 1st inst. to machinery, passenger cars, eight wheel cars for freight, and four wheel cars, together with an estimate of their present value.

Machinery, including lathes, fixtures, etc	Dr.	$113,003 29
Locomotives Gov. Morrow and Shawnee	$10,000	
Locomotives Springfield and Xenia	13,000	
Locomotives Miami and Warren	14,000	
Locomotives Ohio and Ben Franklin	15,000	
Locomotives Milford and Wm. Penn	16,000	
Locomotives Cincinnati and Hamilton	14,000	
Locomotives Robert Fulton and A. St. Clair	16,000	
Locomotive Greene	7,000	
Value of lathes, engines, tools, etc	2,800	
		107,800 00
Estimated depreciation		5,203 29
PASSENGER CARS.		
Amount charged to this account on 1st instant		$18,851 69
Eight passenger cars in the aggregate	$11,000	
Four baggage cars in the aggregate	3,600	
		15,400 00
Depreciation		3,451 69
EIGHT WHEEL FREIGHT CARS.		
Amount charged to this account		$67,993 41
Ninety-seven open and covered, equal to new aggregate		65,000 00
Depreciation		2,993 41
FOUR WHEEL CARS.		
Amount charged to this account		$20,596 56
15 new gravel cars, 17 open and box cars, 2 wood cars, 6 platform, and 11 hand lever cars, aggregate		11,765 00
Depreciation		8,831 56

Making in all, $20,479 95—which, if credited to the different accounts, will make the value of the several items equal to the sums charged against them.

A statement of the principal articles of produce transported on the road for the year ending 1st December, 1847.

Apples, clover seed, eggs, etc	barrels.	9,788
Beef, pork, and lard	"	14,096
Molasses, oil, vinegar, etc	"	4,987
Whiskey	"	44,899
Wheat and buckwheat flour	"	151,974
Salt	"	5,202
Empty barrels and kegs	"	12,825
Merchandise, sundries, etc	lbs.	10,973,843
Iron and nails	"	3,151,893
Pork and bulk meat	"	2,554,155
Paper and rags	"	892,349
Butter	"	512,340
Castings	"	481,420
Hay	"	70,284
Lumber	M ft. B.M.	920,958
Hoop poles and staves	M.	7,370,662
Shingles		2,125,000
Malt	sacks.	3,872
Barley and oats	bushels.	71,869
Corn, wheat, and rye	"	194,917
Potatoes and turnips	"	4,242
Lime	"	86,190
Coal and coke	"	63,351
Live hogs	number.	29,938
Number of miles run by passenger, freight, and gravel trains during the year		160,765
Number of cords of wood consumed, 5,625; average cost per cord on tender, $1 90; total		$10,687 50
Number of bushels of coal, 8,000; cost per bushel 12 cents		960 00
Total cost of fuel used		11,647 50

Average cost of fuel per mile run	7·245 cts.
Cost of repairs of locomotives for the year	$14,690 29
Average cost of repairs per mile run	9·148 cts.
Average cost per mile run, including current expenses for all purposes	69·21 cts.

Name of each locomotive, weight, number of driving wheels, when placed upon the road, and number of miles run during the year.

	Weight in tons.	No. of driving wheels.	Date of service.	No. of miles run.
Gov. Morrow	12	4	Nov., 1841	8,439
Shawnee	10	2	June, 1843	14,529
Xenia	13	4	Sept., 1844	12,408
Springfield	13	4	Feb., 1845	15,376
Ben Franklin	15	6	Oct., 1845	10,285
Ohio	15	6	" "	15,252
Milford	15	6	Sept., 1846	19,924
Miami	13	4	" "	18,976
Cincinnati	16	4	Nov., 1846	3,136
Hamilton	16	4	March, '47	3,716
Warren	14	4	May, 1847	14,028
Greene	14	4	June, 1847	10,500
Wm. Penn	15	6	" "	10,920
Arthur St. Clair	15	6	Oct., 1847	3,276
Robert Fulton	15	6	detained in canal.	
Total miles				160,760

The amount charged to repairs of locomotives is somewhat larger than was anticipated; but when it is considered, that up to June of the present year, the motive power on the road was entirely inadequate to its wants, and that a great portion of the labor of repairs was of necessity performed in the night—a course always expensive and unsatisfactory in its results—the cause will be sufficiently explained. During the year, the cost of setting up new engines, sand boxes, shelters for engine men, extra spark arresters, etc., etc., have been charged to this account, with a view to cover depreciation of parts of the machinesy not subject to renewal, as far as possible.

The number of passengers carried for the year is 78,342, against 54,265 the previous year. Of this number, two were slightly injured by the carelessness of an extra train, and another had an arm broken by coming in contact with a stake in a cattle car on a sideling. Mr. Levi Knapp, ticket agent at Milford, lost his life in attempting to get on a freight train in motion at Plainville.

The past year has been remarkable for its frequent and destructive floods throughout the region bordering the Ohio river. Twice within that time the canals in this State have suffered serious injury, and one in a neighboring State has been almost destroyed, while not a single trip has been lost by a passenger train during the year, and but two by freight trains from this cause. The greatest injury has arisen from the imperfect manner in which the road bed was prepared for the reception of the superstructure—the absence of ballast rendering it impossible to keep an even surface during the long continued and frequent rains. Between Freeport and Xenia, in the absence of stone at a convenient distance, the bridges and cattle guards were constructed of timber. Within two years these will require renewal, and I would suggest the propriety of procuring stone at Xenia, and transporting by the cars at an early day.

Respectfully submitted,

W. H. CLEMENT, *Sup't and Engineer.*

The following gentlemen were chosen directors and officers for the ensuing year, viz:

Directors.—Jeremiah Morrow, Jacob Strader, John Kilgour, Griffin Taylor, R. R. Springer, Abraham Hivling, Wm. McCammon, Samuel Burnet, James Hicks, Lewis Broadwell, John Kugler, and Nat. Wright.

Officers.—Jeremiah Morrow, *President*, Jacob Strader, *Treasurer*, John Kilgour, *Secretary*, Wm. H. Clement, *Superintendant and Engineer*, and E. Gest, *Principal Assistant Engineer.*

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money,

A. TIERS.

Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington. Philadelphia Co., March 12, 1848. 11tf

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer*, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK, offer for sale:

150 tons Railroad Iron, 60 ponnds per lineal yard, of an approved pattern, and in long bars; also, 500 tons, ditto, expected to arrive in the month of April next. 6t8

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington,

SIZER & CO.

January 29, 1848. tf Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, *exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice.* Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with *different* editions of the same tables; and *all* the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot *afford* to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

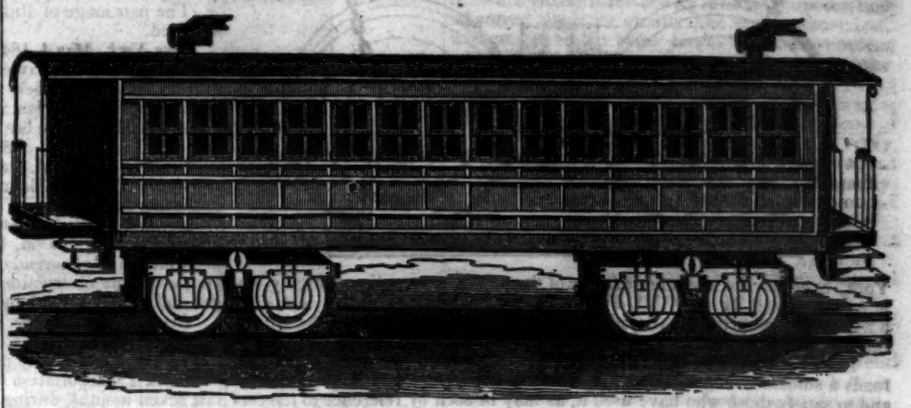
Proposals are invited for *detached portions* of said work, and also for *the whole in one contract*, according to the Act of the Legislature, approved the 30th December, 1847.

Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next. GEO. W. TOWNS, *Governor.*

WM. L. MITCHELL, *Chief Engineer.*
Atlanta, Ga., January 24, 1848. [7t6]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.

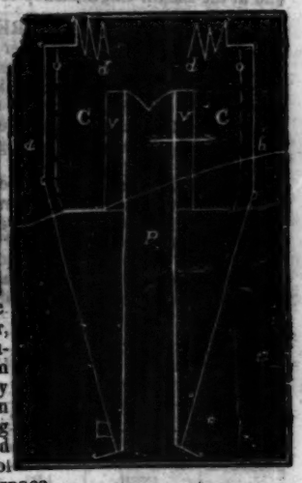


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

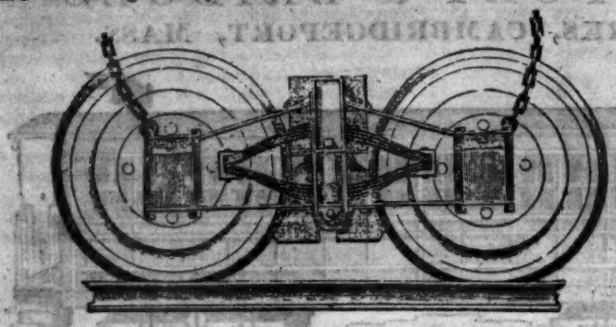
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1u Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.
600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 1, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3½	9	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schüylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y35 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

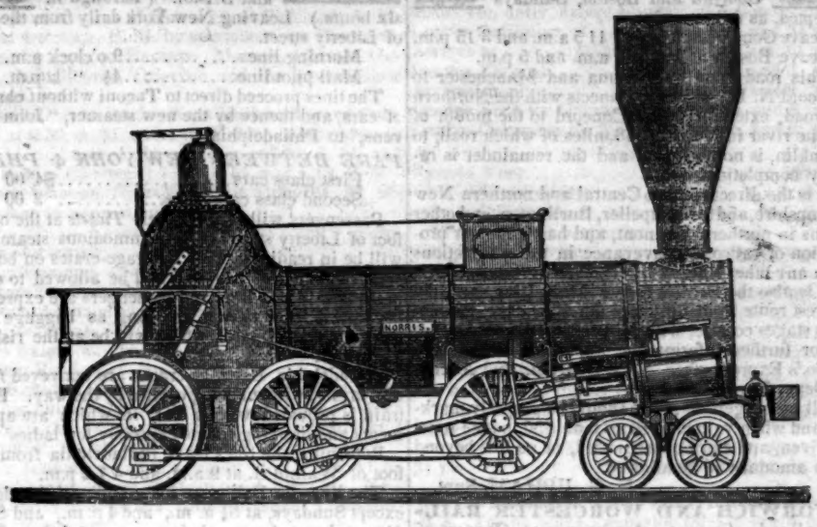
KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

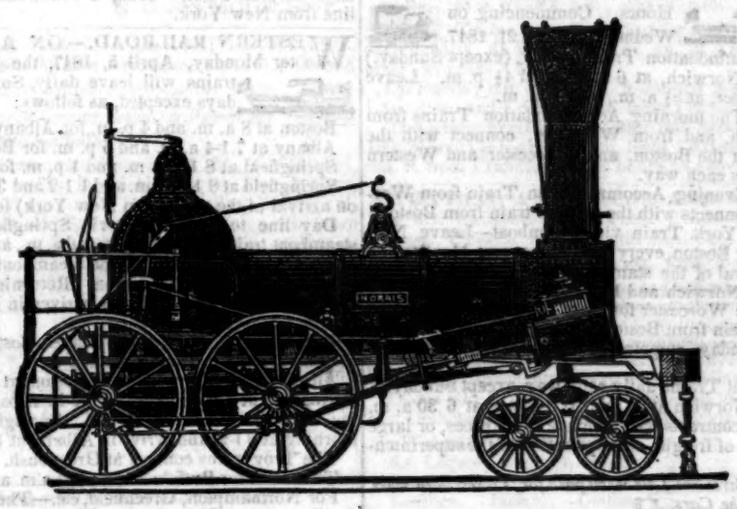
James P. Allaire,
Peter Cooper, } New York.
Murdock, Leavirt & Co.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. }
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. } Provicence, R. I.
Eagle Screw Co. }
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 3b

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25 1847.—1y.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6-50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m.

Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions han any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

15tf DAVID S. IVES Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Taconi without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars.....3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use,

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8½ a. m., and 4 p. m., and Sundays only at 4 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND After Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains eaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road .....32 "

From Bellefontaine to Sandusky city by railroad .....102 "

FARE—From Cincinnati to Lebanon			$1 00
"	"	" Xenia	1 50
"	"	" Springfield	2 00
"	"	" Columbus	4 00
"	"	" Sandusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m.	and 3½ p.m.
Arrives at	9 a.m.	and 6½ p.m.
Leaves York at	5 a.m.	and 3 p.m.
Arrives at	12½ p.m.	and 8 p.m.
Leaves York for Columbia at	1½ p.m.	and 8 a.m.
Leaves Columbia for York at	8 a.m.	and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.

Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

Winter Arrangement.

Philadelphia for Baltimore...8½ a.m. and 4 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 4 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.–Philadelphia to Wilmington, 8½ a.m., *mail*, 1½ p.m., 4 p.m., *mail*. From Wilmington to Philadelphia, 8 a.m., 1 p.m., *mail*, 6 p m., 12½ a.m., *night mail*.

1. R. TRIMBLE,
2t *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—30 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 44-1y

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS
FOR
PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—1y ROBERT GRACIE.
New York.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y-21

LAP—WELDED WROUGHT IRON TUBES FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-ed barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

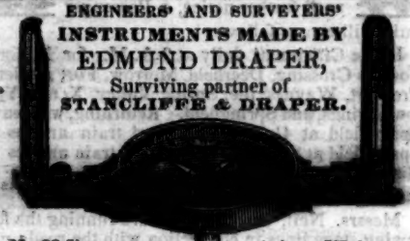
☞ *The above may be had at order at our Car Factory,*
REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS, 1y48

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, below Walnut,
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This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

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☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,
D. K. MINOR.